American Rivers
The Bay Institute
Defenders of Wildlife
The Endangered Species Coalition
Environmental Defense Fund
Natural Resources Defense Council
The Nature Conservancy
Planning and Conservation League

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California Natural Resources Agency
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Messrs. Meral and Nawi,

Per your request, we are providing these recommendations for how to efficiently and expeditiously develop and analyze alternatives for the Bay Delta Conservation Plan. Thank you for requesting that we send our recommendations to you.

In our collective view, the current set of alternatives described in the August 11th Potential Array of Alternatives document is insufficient to achieve ecological recovery of the Bay-Delta Estuary. It is also problematic that the alternatives are constituted such that a useful, "apples to apples" comparison of alternatives may not be possible. In addition, as the Public Policy Institute of California reported in their 2007 report, an alternative that reduces exports and manages the estuary primarily for ecological purposes is considerably more likely to benefit covered species than increased export scenarios (pg. 167). A thorough analysis of more than one reduced export alternative is necessary to generate information that may be critical in shaping a final decision.

Our organizations have reviewed the BDCP's "Potential Array of Alternatives" presented at the August 11, 2011 public BDCP meeting and now posted on the BDCP website. In the interest of developing a successful plan, we recommend further analysis and the inclusion of additional alternatives as outlined below. The recommendations below are necessary to address various legal requirements including the Clean Water Act Section 404 requirement for identification of the Least Damaging Project Alternative.

Screening Analysis Necessary to Narrow Range of Alternatives
Before a final list of alternatives for detailed evaluation is selected, your agencies must systematically explain how and why the short list of alternatives was selected from a much broader list of potential alternatives. Currently, there is no discernible logic behind the alternatives proposed for analysis. They are mostly a hodge-podge of operational scenarios and canal sizes, which will make it difficult to complete a useful apples-to-apples comparison of alternatives. In order to scientifically justify selection of a short list of alternatives for detailed analysis in the EIR/EIS, a screening level analysis must first be conducted of a broad range of operational scenarios under the full range of potential canal sizing assumptions.

There are three categories of physical attributes for each potential BDCP alternative: conveyance size, operations, and amount of habitat restored. In order to get an apples-to-apples comparison of different sizes, we recommend a screening process where a full range of conveyance sizes (3,000 cfs, 6,000 cfs, 9,000 cfs, 12,000 cfs, and 15,000) is evaluated with a common set of operational and habitat assumptions.

For each size, at least three operations should be evaluated including:

- Proposed Alternative BDCP Initial Project Operations for Analysis, 5-Agency Working Draft, May 18, 2011;

- A new operational proposal to provide water supply while providing essential environmental protections including fall x2, South Delta restoration, and more natural inflow patterns. See details below and in attached tables (1-3).

- A more environmentally protective operation with substantially increased outflow contributions from both project and non-project diverters.

To allow apples-to-apples comparisons for each of these screening analyses, the amount of habitat restoration, i.e. 113,000 acres of restored and protected habitat, should be kept constant for all alternatives.

This same screening (three sets of operations and constant habitat area) should also be performed for through Delta conveyance and an isolated 15,000 cfs north Delta conveyance.

This screening analysis should generate information on several key parameters including: amounts of water exported from the Delta, water quality, habitat and hydrodynamics in the north, central and south Delta, and estimated project costs (capital and O&M).

Finally, the screening analysis should also evaluate how south of Delta storage and increased San Joaquin inflows (e.g. at Vernalis) will affect the functionality of each potential alternative. While both of these elements may not be within the official scope of BDCP, they are both foreseeable actions that could significantly alter the cumulative impact on the Delta. They will need to be analyzed eventually, and it therefore makes sense to understand their potential impact before the government spends millions on a detailed analysis of the

alternatives. Information on this subject early in the planning process could reduce costly delays in the future and reveal potential solutions that are agreeable to all parties.

As soon as results are available from this screening process, we will be happy to work with you and other stakeholders to recommend which alternatives should advance to the full EIR/EIS analysis. At that time we will suggest analysis of how cost saving from different size projects could be invested in conservation, recycling, etc. which would contribute to the water supply reliability objective.

Proposed Alternatives for Analysis

In the interest of communicating the type of alternatives we would like to see evaluated even before you have conducted a proper screening analysis, we propose three alternatives in addition to the alternatives you have preliminarily proposed.

The first alternative includes criteria to achieve the fall X2 requirement, additional protections in the south Delta, reservoir bypass criteria to reestablish a more natural hydrograph during winter and spring months, and reservoir release off ramps to prevent unintended draw downs. Criteria for the north Delta diversion are similar to scenario 6, but will require additional pulse protection in the late winter and through the spring (e.g. an extension of the protections for winter run juveniles that were incorporated in previous operational alternatives) in order to protect outmigrating fall run and spring run Chinook salmon. Partial details for these criteria are provided in tables 1, 2 and 3 (attached), but the north Delta diversion rules will need to be more fully described. These criteria should be modeled with a broad range of canal sizes (as described above) to identify the optimal canal size for this operating regime.

Our second alternative would be designed to achieve the SWRCB's August 2010 public trust flow criteria for the Delta without causing ecologically harmful changes in upstream reservoir management for covered species. This would involve evaluating both a) the proportional contributions of only the CVP and SWP South of Delta contractors toward meeting the SWRCB criteria and b) the proportional contributions of all major diverters in the Central Valley watershed, including federal non-export contractors and non-project water users in addition to export contractors. Variant (b) extends beyond the ordinary scope of an action alternative, since it includes actions (diversions) by entities other than the applicants. That said, non-project diversions are related or connected for the purpose of cumulative impact analysis under NEPA/CEQA. Further, the Delta Reform Act (section 85320(b)(2)(A)) requires such analysis as a basis for final action on the BDCP. Finally, it should be noted that the BDCP Steering Committee specifically agreed that this related action alternative be evaluated in the EIS/EIR when deciding upon the initial range of operations for analysis.

Our third alternative is similar to Alternative 1a as characterized in the August 11 "Potential Array of Alternatives" Table, but with two important differences. The conveyance size would be reduced from 15,000 cfs to 9,000 cfs. We recommend that this alternative include an additional investment in efficiency and alternative water supplies to reflect the cost savings from building the smaller facility.

In addition to these three additional alternatives, we emphasize our support for evaluating alternative 4a as described in the "Potential Array of Alternatives," along with the operational criteria related to reservoir storage, groundwater, deliveries etc. To achieve these criteria, we recommend utilizing a reservoir bypass strategy similar to that outlined in table 3 (attached) to both reestablish a more natural spring hydrograph and to better manage unintended consequences of the Coordinated Operating Agreement on upstream storage levels. We would be pleased to work with your agencies, the SWRCB, and other agencies to further develop this alternative.

Lastly, we recommend some slight modifications to the "Potential Array of Alternatives" Table, in order that the differences in outcome resulting from the alternatives are most useful.

- Alternative 2A: Change conveyance capacity from 9,000 cfs to 6,000 cfs for clearer comparison with alternative 2.
- Alternative 2B should be a standalone alternative. It is not related to alternative 2.

Thank you for considering these recommendations. We believe their adoption will provide a better balance of BDCP alternatives and provide additional information, helping to ensure that an acceptable final plan can be developed. That said, these alternatives are for analysis only and it is premature for any of our organizations to commit prior to full completion of the analysis.

Please do not hesitate to contact any of us if you have questions.

John Cain — American Rivers
Gary Bobker — The Bay Institute

Kim Delfino — Defenders of Wildlife
Mark Rockwell — Endangered Species Coalition

Spreck Rosekrans — Environmental Defense Fund
Doug Obegi — Natural Resources Defense Council

Leo Winternitz — The Nature Conservancy
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Operational Criteria: Tables 1-3

Table 1 - Fall X2

Month	W	AN	BN	D	C
Jan	NA	NA	NA	NA	NA
Feb	NA	NA	NA	NA	NA
Mar	NA	NA	NA	NA	NA
Apr	NA	NA	NA	NA	NA
May	NA	NA	NA	NA	NA
Jun	NA	NA	NA	NA	NA
Jul	NA	NA	NA	NA	NA
Aug	NA	NA	NA	NA	NA
Sep	74	81	NA	NA	NA
Oct	74	81	NA	NA	NA
Nov	74	81	NA	NA	NA
Dec	NA	NA	NA	NA	NA

Table 2 - Old and Middle River

Month	W	AN	BN	D	C
Oct	-3500	-3500	-3500	-3500	-3500
Nov	-3500	-3500	-3500	-3500	-3500
Dec	-2500	-2500	-2500	-2500	-2500
Jan	0	0	-1000	-1500	-1500
Feb	0	0	-1000	-1500	-1500
Mar	0	0	-1000	-1500	-1500
Apr	0	0	-1000	-1500	-1500
May	0	0	-1000	-1500	-1500
Jun	0	0	-1000	-1500	-1500
Jul	-3500	-3500	-3500	-3500	-3500
Aug	-3500	-3500	-3500	-3500	-3500
Sep	-3500	-3500	-3500	-3500	-3500

Table 3 - Reservoir Release Percentages

Month	Release Percentage	Max Keswick Release	Max Thermalito Release	Max Nimbus Release
Feb	40%	15,000	10,000	3,000
March	100%	15,000	10,000	3,000
April	100%	15,000	10,000	3,000
May	60%	15,000	10,000	3,000
June	40%	15,000	10,000	3,000

Table 3b - Oroville Offramps

Month	Cap 1	Storage 1	Cap 2	Storage 2	Cap 3
Feb	10,000	2000	5375	1300	750
March	10,000	2200	5375	1500	750
April	10,000	2400	5375	1700	750
May	10,000	2200	5375	1500	750
June	10,000	2000	5375	1300	750

Table 3a - Shasta Offramps

Month	Cap 1	Storage 1	Cap 2	Storage 2	Cap 3
Feb	15,000	2800	9125	2400	3250
March	15,000	3000	9125	2600	3250
April	15,000	3200	9125	2800	3250
May	15,000	3000	9125	2600	3250
June	15,000	2800	9125	2400	3250

Table 3c - Folsom Offramps

Month	Cap 1	Storage 1	Cap 2	Storage 2	Cap 3
Feb	3,000	350	1900	250	800
March	3,000	400	1900	300	800
April	3,000	450	1900	350	800
May	3,000	400	1900	300	800
June	3,000	350	1900	250	800